

REMARKS

Reconsideration and allowance in view of the following remarks are respectfully requested. Claims 3 and 11-27 remain pending.

All claims (i.e., claims 3 and 11-27) stand rejected under 35 U.S.C. §103(a) as being unpatentable over Litsche (US 5,240,678) in view of Sucholeiki (US 6,277,332). (Office Action at ¶ 4). The rejection is respectfully traversed on the grounds that there is no motivation for combining the teachings of Sucholeiki '332 with those of Litsche '678, and thus the asserted combination would not have been obvious to one of ordinary skill in the art.

As acknowledged in the Office Action, Litsche '678 fails to teach the hook member drive assembly including a lead screw mechanism, as is recited in independent claim 3. (Office Action at ¶ 6). It is suggested that because Sucholeiki '332 describes an apparatus in which the reaction plate holder is moved back and forth by the rotation of a screw shaft, it would have been obvious to one of ordinary skill in the art to incorporate the screw shaft of Sucholeiki '332 into the transport apparatus described in Litsche '678. (Office Action at ¶¶ 6-7). The applicant respectfully disagrees.

"When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." In re Rouffet, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998); see also MPEP § 2143.01. Virtually all inventions are combinations of old elements. See In re Rouffet, 47 USPQ2d at 1457. If identification of each claimed element in the prior art were sufficient to negate patentability, the Patent Office could use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. See Id. To prevent the use of hindsight based on the teachings of the patent application, the Patent Office must show a motivation to combine the references in the manner suggested. See Id. at 1457-1458.

In Rouffet, the Court of Appeals held that the Board of Patent Appeals and Interferences did not err in finding that all elements recited in the claims of Rouffet's application were contained in the combined disclosures of three prior art references. See In re Rouffet, 47 USPQ2d at 1457. The Court did hold, however, that the Board erred in determining that one skilled in the art would

have been motivated to combine the references in such a manner as to render the claims obvious.
See Id. at 1457.

The situation is, at best, the same in this case. Even if all elements recited in the claims can be found in the combined disclosures of Litsche '678 and Sucholeiki '332, there is no reason that one of ordinary skill in the art would have been motivated to combine these references in such a manner as to render the rejected claims obvious.

Litsche '678 describes a transporter 12 for transporting a tray 5 carrying a plurality of test tubes 4. The transporter 12 is pivotable with respect to pivot axis 7 and includes a tray movement member 14 that is longitudinally slidable with respect to a housing 11 (i.e., radially with respect to pivot axis 7) of the transporter 12. The drive mechanism for effecting the radial movement of the tray movement member 14 is described as follows:

Beneath the bottom portion 44 of housing 11 a stepper motor 61 is mounted which by means of a drive gear 62, a toothed belt 63 and a guide roller 65 mounted on shaft 64 drives a drive gear 66 and, thus, by means of toothed belt 49 and the idler 48, the tray movement member 14 (see FIG. 3).

(Litsche '678 at col. 5, lines 13-18)

It has been held that a rejection is improper where the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." In re Ratti, 270 F.2d 810, 813, 123 USPQ. 349, 352 (C.C.P.A. 1959) (emphasis added), see also MPEP § 2143.01, at page 2100-127.

The belt and pulley mechanism of Litsche '678 is significantly different than a screw mechanism, such as is described in Sucholeiki '332. Incorporating the screw mechanism of Sucholeiki '332 into the transporter of Litsche '678 would require a substantial reconstruction and redesign of the Litsche '678 transporter.

It is suggested in the Office Action that "[i]t would have been obvious to use a screw drive in place of the belt drive of Litsche in order to provide an equivalent mechanical expedient for moving receptacles using a stepper motor as taught by Sucholeiki." (Office Action at ¶ 7). The foregoing statement does not, however, suggest a reason why a person of ordinary skill in the art would be motivated to replace the belt drive of Litsche '678 with the allegedly equivalent screw

drive of Sucholeiki '332. Applicants disagree with the characterization of a screw drive as being an "equivalent mechanical expedient" of the belt drive. The only thing equivalent about the two drives is that both result in the radial movement of a hook carried on the transport mechanism. But regardless of whether the mechanisms are equivalent or not, the Office Action fails to explain why a person of ordinary skill in the art would be motivated to replace one with the other.

Without a motivation for modifying the transporter of Litsche '678 per the teachings of Sucholeiki '332, the rejections based on the asserted combination of Litsche '678 and Sucholeiki '332 is no more than a hindsight reconstruction of the claimed invention. Accordingly, the rejections based on Litsche '678 and Sucholeiki '332 are improper and should be withdrawn.

Claims 3, 11-18, 20, and 26-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Clark (US 5,482,861) in view of Sucholeiki '332. (Office Action at ¶ 9). The rejection is respectfully traversed on the grounds that the asserted combination of prior art teachings is no more than an improper, hindsight reconstruction of the claimed invention.

Clark '861 describes a transfer station 42 having a transfer arm 173 which engages a reaction vessel with a reaction vessel transfer projection 172. The transfer arm 173 is moved into and out of the transfer station housing by means of a transfer arm drive gear 174 which engages a rack gear 176. As acknowledged in the Office Action, Clark '861 fails to disclose a hook member drive assembly which includes a lead screw mechanism including a threaded shaft oriented in a generally radial direction with respect to the axis of rotation. (Office Action at ¶ 11). As with the rejection based on Litsche '678 and Sucholeiki '332, Sucholeiki is relied upon for its teaching of a drive screw mechanism, and the Office Action concludes that "[i]t would have been obvious to use a screw drive in place of the gear-sprocket drive of Clark in order to provide an equivalent mechanical expedient for moving receptacles using a stepper motor as taught by Sucholeiki." (Office Action at ¶ 13).

The applicant disagrees that the screw drive mechanism of Sucholeiki is "an equivalent mechanical expedient" of the drive gear/rack gear mechanism of Clark '861. Replacing the drive gear/rack gear mechanism of Clark '861 with the drive screw mechanism described in Sucholeiki '332 would require a substantial reconstruction and redesign of the transfer station of Clark '861 and thus would not have been obvious to a person of ordinary skill in the art. See In re Ratti, 270 F.2d at 813. Furthermore, the Office Action fails to provide a motivation for modifying the transfer

station of Clark '861 in the manner proposed, stating only that the proposed modification would have been obvious in order "to provide an equivalent mechanical expedient" without explaining why a person of ordinary skill in the art would want to replace the drive mechanism of Clark with an allegedly equivalent drive mechanism. Without a plausible motivation for modifying Clark '861 based on the teachings of Sucholeiki '332, the rejection is no more than a hindsight reconstruction of the claimed invention. See In re Rouffet, 47 USPQ 2d at 1457-1458.

For the foregoing reasons, the rejection of independent claim 3 based on the combination of Clark '861 and Sucholeiki '332 is improper and should be withdrawn.

Dependent claims 19 and 21-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Clark '861 in view of Sucholeiki '332 and further in view of Litsche '678. (Office Action at ¶ 14).

With respect to dependent claims 11-27 alleged to be unpatentable over Litsche in view of Sucholeiki, claims 11-18, 20, and 26-27 alleged to be unpatentable over Clark in view of Sucholeiki, and claims 19 and 21-25 alleged to be unpatentable over Clark in view of Sucholeiki and Litsche, the Office Action provides no explanation as to where the specific features recited in each of the dependent claims are disclosed in the applied references.

Dependent claims 11-27 are allowable over the art of record as depending from allowable independent claim 3.

Furthermore, a number of the dependent claims are allowable for the following additional, independent reasons.

Dependent claim 12 recites that the receptacle carrier assembly includes a plate having a radially oriented opening formed therein in which a reaction receptacle is supported. Claim 13, depending from claim 12, further recites that the opening comprises an elongated radially oriented slot. Neither Litsche '678, Sucholeiki '332, nor Clark '861 describes such a structure.

Dependent claim 14 recites that the receptacle carrier assembly includes a plate having a radially oriented opening formed therein in which the reaction receptacle is carried and wherein the hook mounting structure includes guide grooves slidably engaged by edge portions of the plate peripherally surrounding the opening to provide the guided movement of the hook mounting structure. No such structure is described in Litsche '678, Sucholeiki '332, or Clark '861.

Dependent claim 17 recites that the transport mechanism further comprises a shaft coinciding with the axis of rotation, a pulley connected to the shaft, a motor, and a transmission belt coupling the pulley with the motor. No such structure is described in Litsche or Sucholeiki. In Litsche, rotation of the transporter is effected by means of a pinion gear which engages a toothed arcuate plate 35 and is rotated by a stepper motor coupled thereto by a belt. Powered rotation is not applied at the axis of rotation. While the transfer station of Clark '861 includes a rotational axis 178, it is not clear how rotation of the transfer station is effected.

Dependent claim 19 depends from claim 17 and recites that the transport mechanism comprises an arm position encoder rotatable with the shaft for indicating an angular position of the shaft and the receptacle carrier assembly. No such structure is disclosed in Litsche '678 or Sucholeiki '332, and the Office Action acknowledges that Clark '861 does not disclose sensors. (Office Action at ¶ 15).

In Litsche '678, sensor 27 is mounted on the tray rack 3 to indicate if a tray is inserted into the tray rack and retained by the retaining means 19 (see Figure 3, column 3, lines 63-68). Sensor 32 is mounted on an outrigger 33 of the transporter 12 and is used for scanning slots 31 so as to align the transporter with the tray racks 3 and the zero position (see Figure 2, column 3, lines 43-47). Sensor 68 detects rotary movement of an encoder wheel 67 mounted on shaft 88 and rotated by toothed belt 49, which causes powered movement of the tray movement member 14 (see Figure 6, column 5, lines 18-21). None of the sensors corresponds to the sensor arrangement recited in claim 19.

Dependent claim 23 recites that the hook position sensor comprises an optical sensor mounted on the receptacle carrier assembly and a flag extending from the manipulating hook member. None of the sensors described in Litsche '678 corresponds to the sensor structure recited in claim 23.

Dependent claim 24 recites a second optical sensor and a second flag extending from the manipulating hook member. No such sensor arrangement is described in Litsche '678.

Dependent claim 25 recites a receptacle present sensor constructed and arranged to indicate the presence of a reaction receptacle carried by the receptacle carrier assembly. No such sensors are described in Litsche '678. Sensor 27 of Litsche '678 indicates if a tray is disposed in the tray rack. Sensor 32 aligns the transporter 12 with a tray rack. And sensor 68 senses

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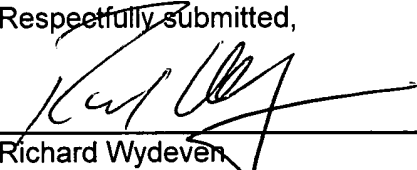
movement of the toothed belt 49 which moves the tray movement member 14. There are no sensors which indicate if a tray is carried on the transporter 12.

Claims 3, 11-21, and 26 stand rejected under 35 U.S.C. §102(e) as being anticipated by Horner (US 6,086,827), Horner (US 6,517,783), and Horner (US 6,517,782) (collectively, "the Horner patents"). As noted in the Office Action, the present application and the Horner patents have a common assignee. (Office Action at ¶¶ 19, 21, and 23). As set forth in the accompanying Declaration under 37 CFR §1.132 by the inventor of this application, Kelly G. Ammann, the transfer device 20 shown in Figures 9 and 10 of the Horner patents and described in the specifications of, but not claimed in, the Horner patents was derived by Mr. Ammann. Accordingly, the transfer device described but not claimed in the Horner patents is not an invention "by another" under 35 U.S.C. §102(e).

All rejections and objections having been addressed, it is respectfully submitted that the present application is now in condition for allowance and a notice to that effect is earnestly requested.

Respectfully submitted,

By


Richard Wydeven
Attorney for Applicant
Registration No. 39,881
ROTHWELL, FIGG, ERNST & MANBECK, p.c.
Suite 800, 1425 K Street, N.W.
Washington, D.C. 20005
Telephone: (202)783-6040

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